

XXXIII. *On the Culture of Pine-apples. An extract of a Letter from William Baftard, Esq. of Kitley in Devonshire, to Samuel Musgrave, M. D. F. R. S. dated Kitley, March 15, 1777. Communicated to the Society by Dr. Musgrave.*

Read June 19, 1777. **B**EFORE I enter into the particulars of raising pine-apples in water, it will be necessary to tell you that my hot-house is covered with the best crown-glass, which I apprehend gives more heat than the common sort of green glass generally used for hot-houses. In the front part of the house, and indeed any where in the lowest parts of it, the pine-apple plants will not thrive well in water. The way in which I treat them is as follows. I place a shelf near the highest part of the back wall, so that the pine-plants may stand without absolutely touching the glass, but as near it as can be: on this shelf I place pans full of water, about seven or eight inches deep; and in these pans I put the pine-apple plants, growing in the same pots of earth as they are generally planted in to be plunged into the

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bark-bed in the common way; that is, I put the pot of earth, with the pine-plant in it, in the pan full of water, and as the water decreases I constantly fill up the pan. I place either plants in fruit, or young plants as soon as they are well rooted, in these pans of water, and find they thrive equally well: the fruit reared this way is always much larger, as well as better flavoured, than when ripened in the bark-bed. I have more than once put only the plants themselves without any earth, I mean after they had roots, into these pans of water, with only water sufficient to keep the roots always covered, and found them flourish beyond expectation. In my house, the shelf I mention is supported by irons from the top, and there is an intervening space of about ten inches between the back wall and the shelf. A neighbour of mine has placed a leaden cistern upon the top of the back flue (in which, as it is in contact with the flue, the water is always warm when there is fire in the house) and finds his fruit excellent and large. My shelf does not touch the back flue, but is about a foot above it; and consequently the water is only warmed by the air in the house. Both these methods do well. The way I account for this success is, that the warm air always ascending to the part where this shelf is placed, as being the highest

part of the house, keeps it much hotter than in any other part. The temperature at that place is, I believe, seldom less than what is indicated by the 73d degree of FAHRENHEIT's thermometer, and when the Sun shines it is often at above 100°: the water the plants grow in seems to enable them to bear the greatest heat, if sufficient air be allowed; and I often see the roots of the plants growing out of the holes in the bottom of the pot of earth, and shooting vigorously in the water.

My hot-house (the dimensions of which it may be proper to know) is sixty feet long, and eleven feet wide the flues included; six feet high in the front, and eleven feet at the back on the inside of the house. It is warmed by two fires. A leaden trough or cistern on the top of the back flue is preferable to my shelf, as in it the pine-plants grow much faster in the winter, the water being always warmed by the flue: of this I have seen the great benefit these last two months in my neighbourhood. It is not foreign to this purpose to mention that, as a person was moving a large pine-plant from the hot-bed in my house last summer, which plant was just showing fruit, by some accident he broke off the plant just above the earth in which it grew, and there was no root whatever left to it: by way of experiment I

took the plant, and fixed it upright in a pan of water (without any earth whatever) on the shelf; it there soon threw out roots, and bore a pine-apple that weighed upwards of two pounds.

